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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/643,238

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David C. Streuli

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INTERNATIONAL SPECIALTY PRODUCTS

Attn: William J. Davis, Esq.

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EXAMINER

GOLLAMUDI, SHARMILA S

ART UNIT

PAPER NUMBER

1616

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/643,238	Applicant(s) STREULI ET AL.	
	Examiner Sharmila S. Gollamudi	Art Unit 1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Receipt of the amendments of 1/9/06 is acknowledged. Claims 2-4 are pending in this application.

Claim Rejections - 35 USC § 112

Claims 2-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is directed "A 55% VOC"; however it is not clear which compound or compounds the applicant is referring to since there are several volatile organic compounds in claim 1. For instance, claim 2 is directed to 45% ethanol, 31% HFC, and 6% propane/butane wherein the total amount of volatile organic compounds is 82% and applicant is claiming a 55% VOC composition.

Response to Arguments

Applicant argues that HFC propellants are not considered VOC materials by the standards established.

Applicant's arguments filed 1/9/06 have been fully considered but they are not persuasive. The examiner points out that arguments cannot take the place of evidence and applicant has not submitted any of the standards to substantiate applicant's arguments. The rejection is maintained until applicant provides evidence to substantiate the arguments. Further, it should be noted that applicant must submit that the entire class of HFC propellants are not considered VOC materials under the regulations since independent claim 2 is claiming the HFC genus.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobbs et al (6,752,983) in view of RD 422068.

Dobbs teaches a hair spray with reduced volatile organic compounds. Dobbs teaches the Environmental Protection Agency (EPA) has mandated a reduction in the VOC content of hair sprays to 80% or less by 1998. The state of California has set an even more stringent requirement for VOCs in hair spray than the EPA, limiting VOCs to 55% by June 1999. Further, Dobbs teaches propellants such as dimethylether, isobutane, and propane and solvents such as ethanol are VOCs (volatile organic compounds) and must be considered as such in the hair spray formulations in which they are used. Dobbs teaches that to lower the VOC content of the spray, many manufacturers have replaced ethanol in their sprays with water. However, an increase in the water concentration can adversely affect the performance of the hair spray by accelerating the initial curl droop and/or increasing the dry time on the hair.

Dobbs teaches a composition comprising a fixative, ethanol, and methyl acetate and/or t-butyl acetate, a propellant, and optionally water. Preferably the composition comprises: (a) **from about 1 to about 10% fixative**; (b) **from about 20 to about 75% ethanol**; (c) from about 1 to

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about 60% acetate (methyl acetate and/or t-butyl acetate); and (d) **from about 15 to about 45% propellant**. More preferably the composition comprises from about 2 to about 8% fixative and from about 20 to about 35% propellant. The above formulations may also contain water, which preferably comprises from **about 0.01 to about 45%** of the composition, and more preferably from about 0.01 to about 30% of the composition. See column 6, lines 15-35.

Dobbs teaches the manipulation of the concentrations of each component. For instance, the lower end of ethanol may be 25%, 30%, 35%, 40%, 45%, or 50%. Dobbs teaches the endpoints of acetate and ethanol weight percentages can be selected and combined in any combination that is mathematically possible, and can be combined with the preferred or more preferred fixative, propellant, and water weight ranges. For example, in a more preferred embodiment, the compositions of this invention comprise from about 20 to about 55 weight % ethanol; from about 10 to about 40 weight % methyl acetate; from about 4 to about 8 weight % fixative; and from about 20 to about 35 weight % propellant. See column 6, lines 36-62.

Dobbs teaches an "organic solvent-based" formulation refers to a formulation in which the ingredients are soluble, dispersible, or miscible in a organic solvent. The organic solvent preferably do not exceed 55% of the composition (See column 5, lines 40-45). Water can be present in such formulations, but typically at concentrations no more than 15 % water. A "water solvent-based" formulation refers to a formulation in which the ingredients are soluble, dispersible, or miscible in water or a water/organic solvent mixture. Organic solvents may also be present in such formulations, typically at any level. However, the organic solvents preferably do not exceed 55 weight % of the formulation.

Dobbs teaches suitable propellants include propane, isobutane, n-butane,

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dimethyl ether (hydrocarbon), **1,1-difluoroethane** (hydrofluorocarbon), 1,1,1,2-tetrafluoroethane, and mixtures thereof. In one particularly preferred embodiment the propellant comprises 1,1-difluoroethane (hydrofluorocarbon). In an organic solvent-based systems, a mixture of propane and isobutane is preferred. The propellant preferably comprises from about 5 to about 50 parts by weight propane and from about 50 to about 95 parts by weight isobutane. If any water is present in the formulation, then the propellant system also preferably comprises, in addition to propane and butane, dimethyl ether or one of the hydrofluorocarbons (HFC) discussed above. See column 8, lines 45-61. Note that this is a suggestion of instantly claimed isobutane, propane, and HFC.

Dobbs teaches the inclusion of other conventional additives such as preservatives, fragrances, antifoaming agents, hair conditioners, detackifiers, **corrosion inhibitors**, wetting agents, emulsifiers, gloss enhancers, and plasticizers may be added in quantities as desired, up to about 5% by weight of the total formulation. Dobbs teaches any fixative polymer that is commercially available and routinely used in the art may be used. See column 8, lines 62-65.

Dobbs does not teach the instant isobutylene/ethylmaleimide/hydroxyethylmaleimide copolymer as the hair fixative.

RD '068 teaches AQUAFLEX FX-64 (isobutylene/ethylmaleimide/hydroxyethylmaleimide) as a new hair styling polymer that is environmentally friendly and may be used in styling products such as mousses, gels, and lotions. The polymer has enhanced styling effects on the hair and easy to incorporate in a composition. See abstract.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Dobbs et al and RD '068 and utilize the AQUAFLEX FX-64 in Dobbs hair composition. One would have been motivated to do so since RD '068 teaches the AQUAFLEX FX-64 is a styling polymer that not only has enhanced styling effects but also is environmentally friendly. Thus, a skilled artisan would have expected success by the instant combination since not only does Dobbs teach any hair polymer that is known in the art may be used but Dobbs teaches an environmentally acceptable hair composition with a low VOC and the use of the instant hair fixative would further enhance the environmental acceptability of the composition.

With regard to claim 2, the examiner points out that Dobbs provides the general weight percents of each instantly claimed component. Dobbs teaches (a) from about 1 to about 10 % fixative, which encompasses instantly claimed "about 4% of copolymer"; (b) from about 20 to about 75 % ethanol, which encompasses instantly claimed "about 45% ethanol"; (c) from about 15 to about 45 % propellant, which encompasses instantly claimed "about 31% of (a) and about 6% of (b)"; and (d) about 0.01 to about 45 weight % of the composition, more preferably from about 0.01 to about 30 weight % of the composition, which encompasses instantly claimed "about 6-12% of water". See column 6, lines 15-35. With regard to the propellant system, firstly Dobbs teaches the preference for the use of a mixture of propane in the amount of 5-50% and butane in the amount of 50-95%, which encompasses instantly claimed "50/50 mixture of propane/isobutene". Further, Dobbs teaches if water is present, then the propellant system preferably comprises, in addition to propane and butane (50-95), dimethyl ether or a hydrofluorocarbons. Thus, it is the examiner's position that the manipulation of concentrations

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that it is within the skill of an artisan which is done during routine experimentation. Also, the examiner points out that Dobbs teaches the manipulation of the various components on column 6, depending on the other components and their weight percent in the composition. For instance, Dobbs teaches the use of a lower concentration of ethanol, if water and propellant are included in the formulation. Moreover, Dobbs teaches that EPA has mandated the lowering of VOCs in an amount of 80% or less and California mandates limiting VOCs to 55%, thus if a skilled artisan would have been motivated to manipulate the above concentrations within the EPA's guidelines. Furthermore, one would have been motivated to utilize to a lower concentration of water since Dobbs teaches water can adversely effect the curl holding properties of the composition. Lastly, it should be noted that generally difference in concentrations do not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such as concentration is critical. See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

With regard to the instant claim language, the examiner points out that for the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." See MPEP 2111.03.

Response to Arguments

Applicant argues that the essential components in Dobbs compositions are methyl and/or butyl acetate solvents and this solvent is absent in instant invention and that 'consisting essentially of' excludes these solvents.

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Applicant's arguments filed 1/9/06 have been fully considered but they are not persuasive. On col. 2, line 42 et seq., Dobbs teaches the purpose of his inclusion of methyl acetate is to replace some of the alcohol in consumer spray formulations without lessening consumer acceptance. This teaching implies one can use a mixture of ethanol and methyl acetate to reduce alcohol amounts and make it acceptable to the consumers and to reduce the VOC of the composition. However, this teaching also means one can use ethanol alone. Further, the examiner points out that methyl acetate is considered a solvent just as ethanol is. It is the examiner's position that the prior art's methyl acetate is not a material that would change the basic and novel characteristics of the instant invention since clearly the instant invention utilizes a solvent, i.e. ethanol. Furthermore, the instant specification does not provide a clear indication that solvents such as methyl acetate are excluded. The instant disclosure does not contemplate the absence of methyl acetate. Moreover, Dobbs teaches the lower limit of methyl acetate may be 1% on column 7, lines 2-3. Thus, Dobbs is considered to render the instant invention prima facie obvious since MPEP 2111.03 states that:

"For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." See, e.g., PPG, 156 F.3d at 1355, 48 USPQ2d at 1355 ("PPG could have defined the scope of the phrase consisting essentially of" for purposes of its patent by making clear in its specification what it regarded as constituting a material change in the basic and novel characteristics of the invention."). See also AK Steel Corp. v. Sollac, 344 F.3d 1234, 1240-41, 68 USPQ2d 1280, 1283-84 (Fed. Cir. 2003)."

Applicant argues that the reference does not teach or suggest a propellant system consisting essentially of about 31% 1, 1-difluoroethane and 6 % propane/isobutane as a 50/50 mixture. This argument is not persuasive since as pointed out in the previous Office Action,

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Dobbs teaches a mixture of propane and isobutene is preferred. The propellant preferably comprises from about 5 to about 50 parts by weight propane and from about 50 to about 95 parts by weight isobutane. If any water is present in the formulation, then the propellant system also preferably comprises, in addition to propane and butane, dimethyl ether or one of the hydrofluorocarbons (HFC) discussed above. See column 8, lines 45-61. Note that this is a suggestion of instantly claimed isobutane, propane, and HFC.

Applicant's arguments that the invention propellant system, in contrast to the Dobbs pump or aerosol composition, uniquely provides a high pressure are not persuasive. The examiner points out that the recitation, " providing a spray pressure of about 70 psi when used in combination with a Summit SV-9297 valve..." is an intended use limitation and applicant has not shown that Dobb's composition when used with this system (Summit SV-9297 valve) does not provide the same high-pressure conditions. Applicant does not provide any specific arguments regarding RD except that the film-polymer disclosed by RD available commercially and that it is only a part of the inventive features. The examiner points out the rejection is based on a combination of Dobbs and RD and one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dobbs et al (6,752,983) in view of RD 422068 in further view of Chang et al (6,214,328).

The teachings of Dobbs et al and RD '068, respectively, have been set forth above, in detail. Dobbs teaches a hair spray with reduced volatile organic compounds. The composition

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comprises: (a) from about 1 to about 10% fixative; (b) from about 20 to about 75% ethanol; (c) from about 1 to about 60% acetate (methyl acetate and/or t-butyl acetate); and (d) from about 15 to about 45% propellant. More preferably the composition comprises from about 2 to about 8% fixative and from about 20 to about 35% propellant. The above formulations may also contain water, which preferably comprises from about 0.01 to about 45% of the composition, and more preferably from about 0.01 to about 30% of the composition. See column 6, lines 15-35. Dobbs teaches the inclusion of other conventional additives such as preservatives, fragrances, antifoaming agents, hair conditioners, detackifiers, corrosion inhibitors, **wetting agents**, emulsifiers, gloss enhancers, and **plasticizers** may be added in quantities as desired, up to about 5% by weight of the total formulation.

RD '068 teaches (isobutylene/ethylmaleimide/hydroxyethylmaleimide) as a new hair styling polymer that is environmentally friendly and may be used in styling products such as mousses, gels, and lotions.

Although Dobbs teaches the use of plasticizers and wettings agents (surfactants), the instant cationic surfactants or silicones are not specified.

Chang teaches a an aqueous hair styling compositions having a fixative resin and containing low (80 weight percent or less) VOC concentrations. See abstract. Chang teaches one more surfactants may be added to low-VOC hair styling composition, which typically reduce the surface tension of the composition. When surfactants are present in the hair styling composition, they are preferably present at a concentration of from 0.001 to 1%. The surfactants that may be used in the hair styling composition include, for example, anionic, **cationic**, nonionic and amphoteric surfactants. Further, one or more plasticizers may be added to the hair styling

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composition of the present invention at a concentration of from 0.001 to 1%. The plasticizers include those that are known and typically used in the art such as dimethicone copolyol, dimethicone, **phenyltrimethicones**, and trialkylcitrate. See column 6, lines 42-65.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Dobbs et al, RD '068, and Chang et al and utilize the instantly claimed additives in the hair composition of Dobbs. One would have been motivated to do so since Chang teaches the conventional use of surfactants, such cationic surfactants, to reduce surface tension of the composition. Further, a skilled artisan would have been motivated to use plasticizers such as phenyltrimethicone, since plasticizers modify the flow properties and flexibility of the composition. Lastly, a skilled artisan would have reasonably expected similar results since Dobbs teaches that additives such as wetting agents and plasticizers may be used in the composition without effecting the performance of the composition.

Response to Arguments

Applicant provides no specific arguments regarding Chang and the examiner has addressed the arguments pertaining to Dobbs and RD.

The rejection of claims 1 and 3-5 under 35 U.S.C. 103(a) as being unpatentable over Kalbfleisch et al (6,589,510) is withdrawn in view of the cancellation of claim 1.

Conclusion

All the claims are rejected at this time.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharmila S. Gollamudi whose telephone number is 571-272-0614. The examiner can normally be reached on M-F (8:00-5:30), alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Kunz can be reached on 571-272-0887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sharmila S. Gollamudi
Examiner
Art Unit 1616



SREENI P. MANABHAN
SUPERVISORY PATENT EXAMINER